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LEADING ARTICLES

TOURING THE LANDS WHERE MEDICAL SCIENCE EVOLVED.

SIXTH PAPER.*

ROBERT G. ECCLES, M. D.

[FOR THE MEDICAL FORTNIGHTLY.]

BRITANNIA.

Much of what Greece was to the development of ancient medicine Britain is to modern medicine. Were it not for the fact that to Germany we chiefly owe the careful, accurate working out of the data of cytology and pathology Britain's preeminence would be undeniable. As it is we owe to the latter the elucidation of the great principles of that biology which includes, as part of itself, Germany's contributions to cytology and pathology. The temple of modern medical truth has been built from the plans of British architects, but the hard work of its construction has been done mostly in Germany, though a large part of it must be credited to France, Holland, Italy, Russia, Switzerland, the United States, and Scandinavia.

In constructing an itinerary of travel through the British Isles the medical tourist who desires to bring himself in touch with the historical associations through which these plans evolved should on no consideration fail to visit Edinburgh, Cambridge, and Oxford. All of these should be triple-starred. In order to give them a fit perspective he ought to see the places where Christianity first took root in this same part of the world. By landing at Queenstown, as this author did in a tour that preceded his peri-terrestrial one, the traveller will be suddenly introduced to that part of Ireland where the "brogue" is the thickest and Hibernian ways most pronounced. He will see the place from which Wm. Penn sailed for America, hear the celebrated "Sweet Bells of Shandon;" have his first ride in a "jaunting car" to Castle Blarney and get a chance to kiss the Blarney Stone, enjoy the justly celebrated beauty of the Lakes of Killarney, visit Dublin the modern capital of Ireland, and cross the "Boyne Water" where William of Orange defeated King James of Scotland, much to the satisfaction of the Scottish people. Soon after passing the Mourne Mountains he can stop and study the ancient capital of Ireland and stand upon the spot where the first Christian church was erected in the British Isles. Here in the ancient Dunun of Ptolemy most probably lies all that is left of the body of Saint Patrick. The place now bears the name of Downpatrick. The cathedral stands upon a hill within the town and probably occupies the site of the chapel which Ireland's saint dedicated in A.D. 432. This was about the time the Angles and Saxons invaded Albion, and later caused its name to become England. On the east window of the cathedral is an inscription in Latin which reads: "Hi in tres Duno tumulo tumulantur in uno, Brigdia, Patricius, atque Columba pius." This has been translated so as to read: "Three saints do rest upon this holy hill, St. Patrick, Bridget and St. Columbkill." Before the advent of railways the people of this region had not given up ancient methods of treatment. About a mile from the cathedral are four shallow wells that have been long known as the Wells of Struel. They have likewise been known as the Wells of Saint Patrick. For ages they have singly been known as (1) the "Body Well" or well in which acute bodily infirmities could be cured and sins removed;

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(2) the "Limb Well," or well in which diseased arms and legs could be healed; (3) the "Eye Well," or well in which diseases of the eyes could be subdued; (4) the "Well of Life," or well in which chronic bodily ailments could be overcome and perfect health restored. Some years ago a Protestant bought the property on which these wells are situated and instead of pursuing the American plan of making money out of credulity he has been discouraging such superstition by making visitors a laughing-stock for himself and friends. At one time scarcely a day would pass without dozens of pious visitors being present crawling and praying in these wells. Now the occasional visitor finds a non-congenial atmosphere to freeze his faith, so that the reputation of this Irish Epidaurus is almost at an end.

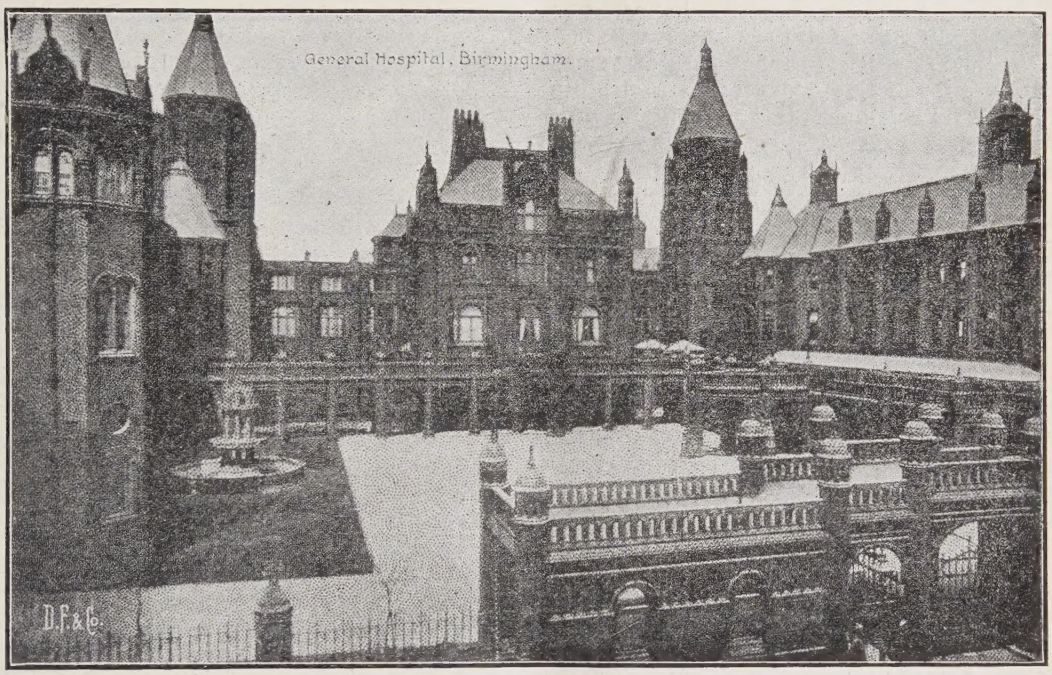
By crossing Ulster, to the County Donegal, the tourist can reach the Garton Lake and visit the birth-place of St. Columbkill. Here was established the second head centre of early Christian religion. About A. D. 450 St. Patrick and St. Columbkill dedicated a chapel on a hill not far from the lake. What is claimed to be the ruin of that chapel is still standing there. Possibly the stones and the spot may be the same, but it is quite evident that even that roofless, doorless, windowless old ruin is too modern for such a claim. Anyway the people of the region are convinced of its being the original. A broken stone font lies near the remnants of an altar. Some one, as an act of devotion, seems to keep it supplied with water, and if appearances do not belie facts that altar and that water must be often used. All around these, stuck into the plasterless walls, hung on extemporized wooden pegs, placed on projecting stone ledges, and strung on suspended cords, are myriads of mementoes of the suffering and ailing. There are small crosses by the hundreds, prayer beads a basketful, scapularies by the score, rags, handkerchiefs, rings, brooches and pieces of various kinds of garments in great abundance. On one small ledge I counted more than fifty strings of prayer beads. All these are left for the devouring maw of time to eat up along with the weather worn, roofless chapel that constitutes their store-house. There is no officiating priest, no fees and but few obtruding travellers. It is so far from the currents of civilization that it stands as a well preserved vestige of premedical times.

A few miles farther on and we found Dooan Holy Well, with a number of ailing persons drinking its water and praying on its brink. Thousands, we were told, visit it every year. All around the well are abandoned crutches, canes, and branches of shrubbery that are hung over, from top to bottom, with handkerchiefs, rags of many kinds and colors, strings of prayer beads, small metal crosses and other articles that have been made to touch the ailing at affected points and left here with a prayer after gorging with the water. As far as the eye can see there is scarcely a tree, bush, or shrub that is not decorated with such articles. In a near-by hut the tourist can buy picture postal cards of this gruesome and painfully suggestive sight. The driver of our jaunting car assured us in a most emphatic manner of the great efficacy of such treatment. He had never known of a sufferer who did not get relief unless "mortally affected." The same driver believed just as thoroughly in the existence of "wee folks," as he called the "fairies." Hindoos carry home the sacred water of the Ganges to purify their souls and renovate their sick bodies and the devout people of Donegal carry home thousands of bottles filled with Dooan water for the same purposes. This vestige of primitive simplicity, not far from the heart of modern civilization, is at once interesting and astonishing.

The third head-centre of early British Christianity is in Scotland. Before reaching it the sight-seeking tourist will visit the intervening places of historic, scenic, and scientific interest. A few miles from Garton Lake is McSwine's Gun, on the tip of land that is first seen by transatlantic travellers between New York and Glasgow. This is a cavern, with a small opening at its summit, into the mouth of which sweeps the Atlantic surf. In high winds so much water enters that it compresses the air in a manner that makes it escape from the upper opening with a roar like that of a cannon. At Londonderry the cathedral occupies the site of another ancient chapel of St. Columbkill. This curiously walled old city stood a siege of nine months, in 1688, under the governorship of a Presbyterian minister. Those were the days when men had to fight for "life, liberty, and the pursuit of happiness," and the tales of their sufferings are most pathetic.

At the Giant's Causeway the traveller sees one of nature's greatest wonders. There nature looks as if attempting to mimic man. Acres of basaltic columns have all the appearance of having been chiselled into form by skilled stone-cutters and fitted into position by trained masons. On the way to the Causeway from Portrush the

tourist is carried upon the first electric railway line ever constructed on a commercial scale on our earth. From the Causeway, as he proceeds toward Larne he sees and may, if he chooses, cross on the Carrick-a-Rede swinging rope bridge that spans a chasm over the boiling surf of the Irish Sea, a hundred feet below, to a small island near the mainland. On the same route he can visit the Falls of Glengariff, the grave of Ossian, and the strangely sea-carved basaltic rocks known as "The Gobbins." On the way he passes through miles of gorse and heather-covered bog, so beautifully described by Sir Walter Scott. On reaching Oban he takes a steamer for Iona, by way of Staffa. At Staffa he sees Fingal's Cave the only large cave of its kind in all the earth. Like the Giant's Causeway it is a mimicry of human effort, but on a colossal and, therefore, unhuman scale. It is one of the greatest natural wonders of our planet. Far into the mass of the apparently chiselled columns the surging sea has cut its way and left a cavern with fluted sides like some immense cathedral. Staffa and Iona belong to the Hebrides Islands, and are therefore part of



resplendent in the beauty of solid masses of bright pink and golden yellow blossoms.

Crossing to Scotland, by way of Stranraer, he passes through the romantic country made famous by Burns' poems, visits, if he chooses, the many places described in these poems, takes a look at Loudon Castle where the representatives of the kingdoms of England and Scotland signed the agreement that gave birth to the British Empire, and then proceeds on his way to Greenock and Glasgow. On the Clyde River he sees miles of ship-yards in which are being built hundreds of monster ships destined to constitute the future navies and merchant vessels of every country in the world. Proceeding to the world-renowned Trossacks he sees in turn the home of Rob Roy, Ellen's Isle, and the scene of the conflict between Fitz James and Rhoderic Dhu, all the Ultima Thule of the ancient world. They are but a few miles apart. Iona was for ages known as "The Holy Isle" to all of Europe. To it came the sick and the sinful from remote regions to gain the consolations of religion and get cured of their ailments. Of it so great an author as Dr. Johnson wrote that, "That man is little to be envied whose patriotism would not gain force upon the plain of Marathon, or whose piety would not grow warmer among the ruins of Iona." Liberty for all the earth was at stake on the plain of Marathon and the struggling plant of early Christian faith flourished on this little island while it kept dying at every other place where planted in all the country around. The inspiration from Marathon and that from Iona has been of incalculable value to our race. Crude as we may now

deem the methods of treating the sick formerly practiced in Iona, it was the purest and best upon the earth at that early epoch. So greatly beloved did the spot become that it became the chosen burial place for kings. Even Macbeth chose its sacred soil in hopes of being forgiven by murdered King Duncan, whose ashes rest near to his own.

From Iona to Edinburgh carries us from ancient to modern medicine, and from ancient to modern philosophic thought. In journeying from one to the other the student of Scottish history will desire to stop on the way and see Stirling Castle and the field of Bannockburn. Burns has immortalized the latter in his "Scotts wha hae wi' Wallace bled." On reaching Edinburgh —the Athens of Great Britain—its beautiful situation immediately captivates the heart. Sir David Wilkie, viewing it for the first time and critically studying it as an expert artist, wrote to his friends that "What the tour of Europe was necessary to see elsewhere, I now find congregated in this one city. Here are alike the beauties of Prague and of Salisbury; here are the romantic sights of Orvietto and of Tivoli; and here is all the magnificence of the admired bays of Genoa and of Naples. Here, indeed, to the poetic fancy may be found realized the Roman Capital and the Grecian Acropolis." But great as are its scenic beauties greater still are its romantic attractions when standing in "The Heart of Midlothian" and viewing it through the poetic eyes of Sir Walter Scott. But our study now is neither scenic nor romantic but medical. What of the additions which "Auld Reekie" has made to medical science? During two centuries the following stars of the first magnitude have, directly or indirectly, been closely attached to its university. Some of them were born there, some studied there, some graduated there and two of them received honorary degrees from there. Who among the readers of the Medical Fortnightly have failed to become familar with the names of such world-wide celebrities as Drs. Hunter, Priestly, Black, Hutton, Darwin, Dalton, Brown, Young, Bell, Bright, Duncan, Owen, Lister, and Huxley? What educated man in all the world has failed to become familiar with the names of Robert Chambers and Charles Darwin, neither of whom became doctors? William Hunter, "the first great teacher of anatomy in England," was born in Lanark Shire, near Glasgow, but spent two years at Edinburgh, taking his degree there. In his school of anatomy in London he had among other illustrious pupils Edward Jenner, the discoverer of vaccination. Jenner made his home with Hunter, while in London, so that their tie of friendship was closer than that of teacher and pupil. John Hunter, William's youngest brother, who was also born in Scotland, received his anatomical knowledge from the latter. He became even more celebrated than William. The British Encyclopedia tells us that he is "as physiologist and surgeon combined unrivalled in the annals of medicine." He was the first person in this world to ligate a large artery for aneurism. His studies in comparative anatomy made him the precursor of Cuvier. His anatomical museum is now the property of the Royal College of Surgeons, London. The Hunter Society of Edinburgh, started in honor of him, is one of the most important societies for the advancement of comparative medical science in Great Britain. Joseph Priestly, the second in the galaxy of Edinburgh stars that is here named, is the discoverer of oxygen. He was a Birmingham man, but received the honorary degree of LL. D. from Edinburgh. He was so persecuted for religion's sake, in Birmingham, that he fled to America and ended his days in this country. The writer of this has always had a sympathetic feeling for Priestly, because he once wrote, "I saw reason to embrace what is generally called the heterodox side of almost every question." Today there stands in front of the town hall of Birmingham a large statute to the honor of this man whose home was there destroyed by a mob and he compelled to fly his country because he refused to have his intellect cut to the standard of bigots. While reading the inscription on that monument, with bared head and reverent heart, I asked myself whether the time would ever come when bigots would know themselves to be bigots and quit seeking to coerce others who are usually their mental superiors. The third great name on our list is that of Joseph Black whose graduating thesis, written in 1752, when he was only 24 years of age, wrought a complete revolution in scientific methods. In his experiments he used a balance, and thus secured exact results. He thus laid the foundation of modern chemistry so that even Levoisier credited him with precedence. John Hutton was born in Edinburgh, but took his medical degree in Leyden. As a pioneer in geology he paved the way for Lyell. Erasmus Darwin received his M. D. in Edinburgh but returned to England to practice. As a poet and philosopher he ranked high, and his theory of evolution paved the way for that of Natural Selection, as propounded by his illustrious grand-

son, Charles Robert Darwin, author of the "Origin of Species." His son, the father of Charles, was also an M.D. of Edinburgh. In his description of the evolution of the human hand, through an accidental variation in the muscles, Erasmus Darwin almost anticipated the doctrine of Natural Selection. His ideas were afterwards parodied thus:

> "There was an ape in days that were earlier;
> Centuries passed and his hair became curlier;
> Centuries more and his thumb gave a twist,
> And he was a man and a positivist."

John Dalton, the propounder of the atomic theory of matter, was a Manchester man, but he received from Edinburgh the honorary degree of LL.D. The basis of his theory was the definite and reciprocal proportions in the unions of chemical substances. These could not have been discovered except by the method that Black had established. Robert Brown received his medical degree at Edinburgh. He laid the foundation on which Schwann and Nageli at a later date strengthened the cell theory of life, by discovering the nucleus in plant cells. Thomas Young, discoverer of how to read the Egyptian hieroglyphics and propounder of the undulatory theory of light, studied medicine at Edinburgh, but took his M.D. degree at Cambridge. Chas. Bell, the great physiologist and surgeon, taught surgery in Edinburgh. He was the first person who distinguished the difference between motor and sensory nerves. As editor of Paley's Evidences of Christianity" he was indirectly connected with directing Darwin's mind toward the doctrine of Natural Selection. He was the first head of the new medical school which later became University College, London. Richard Bright, who first pointed out the relationship between dropsy and kidney disease, and for whom the latter has received the name of Bright's disease, was a graduate of Edinburgh University studying there under Dugald Stewart, Playfair, and Leslie, men almost as renowned as the ones we have named. Dr. Duncan, the man who isolated the first active medicinal principles of any plant, received his degree from Edinburgh, and was in Edinburgh when he accomplished this important work. The alkaloids thus isolated were those of cinchona. He did not however, separate the quinine from the cinchonine and other alkaloids. This was done at a later date in France. Richard Owen, the leading comparative anatomist of the nineteenth century, the founder of the Hunterian Society, and the man who first made the important distinction between analogy and homology in anatomy was a graduate of Edinburgh University. Lord Lister, founder of antispetic surgery and the prophet of cleanliness in surgical and gynecological work, was Professor of Clinical Surgery in Edinburgh University, and did his first surgical work in Edinburgh Royal Infirmary. One has only to read the records of the deaths from surgical pyemia and puerperal septicemia before the days of Lister in order to appreciate the vastness of the reformation he brought about. Thomas Henry Huxley, the St. Paul of Natural Selection, received his M.D. degree at Charing Cross Hospital, London, but Edinburgh honored him with the degree of LL.D. He was the founder of Scientific Paleontology. Robert Chambers, of the Encyclopedia of Useful Knowledge and reputed author of the anonymous "Vestiges of Creation," spent most of his days in Edinburgh. He was a self-taught man but an extensive writer, and no one ever did more toward popularizing scientific knowledge of every kind. The "Vestiges" was the despair of theologians. The more they condemned it the more editions of it had to be printed in order to supply the unprecedented demand. It is not likely that Darwin's Origin of Species would have leaped into the almost immediate recognition among biologists that it did had it not been preceded by Chamber's less scientific volume. It made the subject of evolution a burning one of that generation, and the biologists were called upon to refute it. Like Balaam they were asked to curse but, like Balaam, they were compelled to bless. Not suspecting Chambers as being the author of such a book strictly orthodox St. Andrews, the oldest University in Scotland, gave him the honorary degree of LL.D. for the well-known educational work that he was engaged in.

In the long list of great names of the men who have made Edinburgh famous none stands so high as that of Charles Robert Darwin, the immortal author of "The Origin of Species." Following the footsteps of his father and grandfather, he entered college there intending to graduate in Scotland, but fate ordered otherwise. He left Edinburgh, went to Cambridge and took his degree of A.B. at Christ's College, the alma mater of the author of Paradise Lost, John Milton. After graduating, his voyage as a naturalist on H.M.S. Beagle, his studies of Lyell's Geology, his reading of Paley's works on Natural Theology, and his interest in the contents of Malthus' book on the Laws of Population, directed his mind to Natural Selection as the only reasonable explanation of nature's remarkable adaptations. This law is so deeply

concerned in the production of all living things that now our eyes are being opened to its vast importance in physiology, pathology, bacteriology, protozoology, preventive medicine, therapeutics and in fact every conceivable part of modern medical science. By following its indications we are discovering serums, glandular extracts, opsonins, precipitins, and hormones and learning something of how and why drugs act upon diseases. It only is able to give us the slightest idea of the meaning of phagocytosis, of bacteriolysis, and of hemolysis. As we begin to appreciate the overwhelming importance of Darwin's theory to coming medical science we become sorry that he failed to follow in the footsteps of his father and grandfather by himself taking the medical degree even if he failed to become a medical man. He was born and reared in a medical atmosphere, and even the mother who bore and nursed him has her maiden name in everyday use in every drug store in the world. She was the daughter of the famous Wedgewood the first producer of the Wedgewood mortars with which our powders and pills are mixed, and in which our crude drugs are comminuted. But let us now follow him to the banks of the river Cam and take a look at the great university where he graduated.

After "doing" Edinburgh few will want to leave Scotland without seeing Abbotsford, the home of Sir Walter Scott. From there a most interesting route to take is that which leads to Melrose Abbey, Peebles, Lockerbie, Gretna Green, and Carlisle. This carries the tourist past the Esk River of Lord Lochinvar, the birthplace of Thomas Carlisle, the spot so long celebrated for runaway weddings, and lands him in the lake country of Northern England—the home of Wordsworth,

> "Where Derwent rests and listens to the roar,
> That stuns the tremulous cliffs of high Lodore."

There he can sit and recite Southey's "Why does the water come down at Lodore" as he watches it "eddying and whisking, spouting and frisking, turning and twisting around and around." After taking the ride from Keswick to Buttermere, that is declared to be the "finest drive in the kingdom," Manchester, Eccles, Sheffield, Castleton, Chatsworth, Derby, Newstead Abbey, and Grantham should next be seen by those seeking interest and instruction. From Manchester to Eccles will be crossed the first piece of railway ever constructed on this earth, and at Eccles station will be seen the first spot on the earth where a human being was mangled by a locomotive —the never to be forgotten "Rocket" of George Stephenson. At Castleton will be seen the abode of "Peveril of the Peak," of Scott. At Chatsworth and Haddon Hall, England's finest home and Dorothy Vernon's interesting romance can be studied together. At Derby, the birth-place of Herbert Spencer and the home of Darwin's grandfather, where he practiced medicine, are but a few doors apart, At Newstead Abbey is the birth-place of the poet Byron, and near by is the Sherwood Forest of Robin Hood. At Grantham will be seen the birth-place and early home of Sir Isaac Newton. Every one of the places named has many interesting sights that cannot be referred to in this brief sketch. From Grantham to Cambridge is but a short ride, and even it is punctuated with romance and pathetic history at several places. On landing at Cambridge we are at once attracted by the beauty of its lawns, gardens, trees, and buildings. It lacks the natural glory of sea and hill possessed by Edinburgh, but man's efforts have done much to overcome this defect. Taken as a whole it is a pretty place and well worth seeing for itself. Taken in connection with its historical associations no educated person can say that he has seen England who has failed to see Cambridge.

Trinity College—but one of its nineteen colleges—has given to the world such scholarly men as Bentley, Whewell, Newton, Bacon, Dryden, Cowley, Herbert, Macauley, Byron, Thackery, and Tennyson. These are men for any nation to be proud of. Cambridge divides honors with Edinburgh in giving us the Darwins and Dr. Thomas Young. It divides honors with Padua in giving us William Harvey, the discoverer of the circulation of the blood. Harvey was born at Folkstone, near Dover, a place that all should see who travel between France and England by any of the usual routes. He had his early education in Canterbury, another place that none should miss seeing if only because of its magnificent and historic cathedral. But it was in Canterbury that Thomas Linacre, the founder of the College of Physicians of London, was born. He first placed the education of medical men upon a legal basis in English speaking countries. The charter of his college is the model of the charters of all subsequent purely medical and surgical colleges. As physician to Henry VIII, and later to Mary, his influence was great so that he was able to suppress ignorance among medical practitioners, as no one had been able to do before him. He founded

a chair of medicine at Cambridge and another at Oxford, thus linking his name with all of the great educational centers of his time. His successor as royal physician to Queen Mary, Dr. John Caius (pronounced Keys), erected a monument in St. Paul's Cathedral to Dr. Linacre and imitated Linacre by chartering and endowing Caius (Keys) College, Cambridge. This is known as "the medical college" of Cambridge. The third of its three famous gates—the Gate of Humility, the Gate of Virtue, and the Gate of Honor—has been praised by the great architect Fergusson as a beautiful example of early renaissance in England. In

imitation of Caius and Linacre, John Harvard, another of old Cambridge's great graduates, founded our Harvard University, at Cambridge, Massachusetts. About a century after the time of Caius, Dr. John Ray and Dr. Robert Hooke graduated at the English Cambridge. The first named was the forerunner of Linneus in botany and of Paley in natural theology, thus starting thought along two of the lines which led to Darwinism. He first defined a species as the word has since been generally understood. Robert Hooke, in his "Micrographia," gave the first picture and description of the cell structure of plants. He was the pioneer student of the cell theory of life. To him we are indebted for the balance springs in watches, and he almost anticipated Newton's theory of gravity. Malthus, "the scientific expounder of the principles of population," graduated at Jesus College, Cambridge. From him, as we have already seen, came the germ idea that led Darwin's mind to the doctrine of Natural Selection. What Malthus was to Darwin Francis M. Balfour, another graduate of Cambridge, and pupil of the well-known physiologist Foster, was to Ernest Haeckel and Fritz Mueller. His "Comparative Embryology" guided Mueller to his recapitulation theory and made possible Haeckel's "Evolution of Man."

As the Darwins linked Edinburgh with Cambridge so Dr. Thomas Sydenham, "the English Hippocrates," linked Cambridge with Oxford. He graduated as Bachelor of Medicine at All Soul's College, Oxford, and as Doctor of Medicine at Pembroke Hall, Cambridge. He saved regular medicine from disgrace by defending the use of cinchona; he started the use of tincture of opium; he was the first to diagnose scarlet fever and the first to identify chorea; he first taught that disease is a conservative effort on the part of nature to overcome some evil cause that he could not fully understand; he fed fevers, and he first advocated the "let alone" doctrine in all cases not properly understood. He was a terror and a crank in the eyes of many of his medical contemporaries, because he in numerous ways anticipated twentieth

century medicine, over two hundred years in advance of his age.

The trip from Cambridge to Oxford carries the tourist over a little more than sixty miles of interesting country. Nathaniel Hawthorne wrote that "The world, surely, has not another place like Oxford; it is a despair to see such a place and ever to have to leave it, for it would take a lifetime and more than one, to comprehend and enjoy it satisfactorily." In it there are twenty-one colleges, from each of which has graduated many eminent men. Reference has already been made to two of its greatest graduates—Jenner of vaccination fame and Lyell the geologist. The latter led the way to Darwin's Origin of Species by showing the earth's record of progressive development. Darwin's keenest interest centered on this Scotch savan when trying to convince the world of the truth of Natural Selection. Lyell, Huxley, Hooker and the American botanist, Asa Gray, were the four men whom his heart was set upon as the most important converts to make, and he converted them all. Other forerunners of Darwin, on the philosophical side, were Locke and Berkley. They were both Oxford men. Along with Hume, of Edinburgh, they constitute a trinity of reasoners that stirred up human thought to its very depths and paved the way for Herbert Spencer's all-embracing Synthetic Philosophy. Among the medical professors of Oxford, whose studies had much to do with this maelstrom of thought, were Drs. Francis Glisson and Thomas Willis. In Glisson's capsule and in the Circle of Willis we have constant reminders of these two men. Glisson's doctrine of the irritability of protoplasm and Willis's work of cerebral localization constitute large blocks in that temple of truth that has culminated in Darwinism. By going back to the crusades we find that Richard the Lion-Hearted was born at Oxford, and he, next to Barbarossa, was the most important figure of those turbulent times. While theological feuds added little directly to the evolution of medicine as indirect influences they were of some importance. Oxford had a large share of these. The Martyrs' Memorial, to the memory of Cranmer, Latimer and Ridley who were burned as heretics in front of Baliol College, attests to this. In calmer and saner times the Wesleys and Pusey were products of Oxford. The following are the names of a few important personages of world-wide reputations who have graduated at Oxford: Montgomery the poet, Bishop Heber the author of "From Greenland's Icy Mountains," Blackstone the great lawyer, Johnson the lexicographer Shirley the poet, Hamilton the metaphysician, Froude the historian, Shelley the poet, Charles Reade and Wilkie Collins the authors, Gibbon the historian, Frederic Harrison the positivist, Sir Christopher Wren the architect, Sir Walter Raleigh of tobacco fame, Fox of the "Book of Martyrs," Barham of "Ingoldsby Legends," Arnold of "Tom Brown's School Days," the Duke of Wellington, England's great soldier, Peel and Gladstone England's great statesmen, General Oglesthorpe founder of our State of Georgia, and Oliver Cromwell of the Commonwealth. The Royal Society of Great Britain grew out of scientific meetings started in Oxford in 1648. As I hasten to close the Oxford record the names of Brice and Ruskin come to my recollection as men not to be forgotten among the graduates of that place.

From Oxford to London would be the next logical step in a narrative of this kind. Other interests than medical, however, would attract the tourist to the celebrated and nearby Blenheim Castle that came to the Duke of Marlborough for that "famous victory" that old Caspar told about; to Banbury Cross where legend tells about an old lady on a white horse who had rings on her fingers and bells on her toes; to Stratford on Avon the home of Shakespeare; to Kenilworth Castle with its Walter Scott romance; to Rugby the home of "Tom Brown;" to Coventry of Lady Godiva fame; and to Birmingham that supplies all the world with more kinds of goods than any other half dozen cities on earth. After seeing these one can turn with satisfaction in the direction of the metropolis of Britain, and, practically, the metropolis of the globe. A sail down the Thames should not be omitted. Windsor Castle, in the grounds of which Harvey made the earliest scientific researches on embryology; Eaton and its colleges; Stoke Pogus cemetery where Gray the poet is buried, and where he is believed to have written his "Elegy;" and Kew Gardens—the most interesting botanic gardens in Europe—can be taken on the way. As the text of this article has already made many references to London, its medical colleges and their graduates, the task has been lightened for the closing of this article. But there are still many important names that have not been mentioned that must not be overlooked. There are Addison and Hodgkin of Guy's Hospital, whose names are household words to every physician, and that cannot be forgotten because of Addison's disease and Hodgkin's disease. To Addison we must trace our first know-

ledge of the importance of ductless glands. The Royal Society gave us Davy, Farady, and Tyndall, three immortal names of self-made men. Cambridge gave Tyndall the honorary degree of LL.D. Davy and Farady advanced medical science through their chemical discoveries while Tyndall's great service was that of making the work of Lister possible. His evidences of germs in the air and his method of intermittent sterlization by heat were discoveries of incalculable value to life and health. Along with Huxley, who was an M.D. of Charing Cross, the fight for Pasteur and Darwin was conducted. Both were loyal to truth when such loyalty was really needed. Cowardice is a common trait of our race when new doctrines have to be defended against bitter prejudice, but neither Huxley nor Tyndall were cowards. They fought like heroes and they won like giants. Within the walls of Westminster Abbey these and others of the great men here enumerated have been honored by tablets and monuments, which every visitor to London should see. To the disgrace of that Hall of Fame, Herbert Spencer has been excluded. The false notion that manual dexterity for science is superior to mental prowess in the same noble task is responsible for this. When the method of Zadig is vindicated, as so beautifully portrayed by Huxley, and when the Magi have been conquered by their enemy—common sense—Spencer will have a niche there along with Charles Robert Darwin.

The Annals of Surgery Issues Its Fiftieth Volume.—On January 1st, 1885, there appeared in the literary medical world the first number of a new journal, given up entirely to general surgery. This radical departure from the old lines had the full endorsement of a large number of the leaders in surgery, both in Great Britain and the United States, among whom was Lord Lister, whose name led all the rest on the title-page. The seed was good, the soil fertile, and the journal grew and prospered. Today it's the Annals of Surgery of Philadelphia. In December it blooms—blooms in full, and its subscribers will be treated to a choice collection of twenty-two original articles in the form of a jubilee number. Eminent surgeons from England, Scotland, Denmark, France, Italy, Hawaii, Canada, and the United States will contribute to this issue. Truly the editors and publishers deserve great praise for so fitly rounding out this the fiftieth volume.

THE PROGNOSTIC VALUE OF THE CUTANEOUS TEST IN TUBERCULOSIS

ALBERT E. TAUSSIG, M. D.

ST. LOUIS.

One of the most difficult tasks in medicine is the making of a definite prognosis in cases of tuberculosis. We often meet with incipient cases, in which we are inclined to assure the patient that with proper care a cure is reasonably certain. Nevertheless, such patients may, in spite of all our efforts, go steadily from bad to worse. On the other hand, every one has seen cases that illustrate the other extreme. I remember seeing a woman, some years ago, who was assured by one of our most eminent internists that she had only a few months to live. She had indeed a large cavity, a hectic fever, nightsweats and all the evidences of advanced phthisis,. Nevertheless, for nearly four years after this sentence of death, she lived a reasonably comfortable and useful life. Such experiences tend to make us very cautious in expressing an opinion as to the outcome of a case of tuberculosis and yet, to the patient, the physician's prognosis is second in importance only to the establishment of the diagnosis.

For many years, the most eminent clinicians have attempted to elaborate some rules by which the outcome of a given case could be foretold. Some content themselves with letting the prognosis depend upon the stage of the disease. Thus Rumpf, in 1907, summed up his views in this regard by the statement that in incipient cases the prognosis is good, in the second stage of the infection it is worse, while in the third stage it is distinctly bad. From one point of view, however, this is merely a truism, since we need hardly be told that the more advanced a chronic disease, the less the chance of cure. On the other hand, of two cases, one incipient, the other with a cavity, the former may well die before the latter. Indeed, Rumpf's statement entirely misses the point. What we wish to know is not whether an early case has a better chance of recovery than an advanced one but which members of a group of early or of advanced cases will probably do well and which ill.

At one time there was a tendency to make a relatively bad prognosis in cases with a tuberculous family history, especially if both parents were phthisical, and a better one if there was no taint in the family. More recent statistics have shown however that, to a slight extent, the reverse is true. Members of tuberculous families seem, if

anything, to recover a little more readily than others. Together with a greater tendency to infection, they apparently inherit an increased ability to throw off the disease. Brehmer's group of susceptibles, the youngest children of large families and of these especially the youngest children, do however actually seem at once more apt to acquire tuberculosis and less able to cope with the infection. This group, fortunately, is not large enough to be of practical importance.

The persistence of rales after the best institutional treatment, as well as of fever, nightsweats, loss of weight and the like, have been pointed out as ominous signs. But this is merely to say that an intractable cases offers a poor prognosis and brings us but little nearer a solution of our problem.

The tuberculin tests, the hypodermic method of Koch as well as the cutaneous one of v. Pirquet, have thrown a flood of light upon hitherto obscure tuberculous affections. The cutaneous test has of late been the subject of a great amount of experiment and discussion. Its value and its limitations are now pretty well established. In general it may be said that in early childhood the test is well-nigh pathognomonic, a positive reaction indicating active tuberculosis, a negative one freedom from this infection. The older the patient the less definite the information given. In adult life a positive reaction, especially if not too fugitive, seems to indicate that the patient has now or has had in the past a tuberculosis. A negative reaction may indicate either complete freedom from the disease or a rapidly progressing infection. In general, given a tuberculous condition, the more advanced the disease, the more apt the cutaneous test is to be negative. This is well shown by the following table, based upon a considerable material observed by Wolff-Eisner:

	Positive reactions	Negative reactions
Stage I....	71 per cent	29 per cent
Stage II....	58 "	32 "
Stage III....	24 "	76 "

(In miliary tuberculosis the test is usually negative.)

A seductive theory, based however on analogy rather than experiment, brings this relation into accord with other phenomena observed in connection with the production of immunity against tuberculosis. Briefly, this theory may be stated as follows: As in all other bacterial infections, the body is apt to throw off the disease if it produces immune bodies which have the power of killing the bacteria or of neutralizing their poison or both. In tuberculosis the cells can be stimulated to the production of these bodies only by the endotoxins present in the bodies of the tubercle bacilli. The cells provide themselves with this stimulus by means of the production of a lysin, which disintegrates some of the bacilli, sets free their endotoxin and so makes possible the production of the "immune bodies." Recovery from tuberculosis depends upon the two-fold ability of the cells to produce this lysin and to react to the endotoxin by the production of "immune bodies." Other things being equal the greater the ability of the body to produce lysins the greater the prospect that it will be able to throw off the infection. The cutaneous reaction, according to this theory, is a test of the ability of the body to produce tubercle-bacilli lysins. Every tuberculin contains fragments of tubercle bacilli. As such, they are not particularly toxic when inoculated into the skin. If the tissues however contain the proper lysins, the endotoxins in these bacillary fragments are set free. These are irritating to the tissues which respond by the formation of an inflammatory papule. The lysins are not found except in the presence of a tuberculous infection. Once found, however, they persist in the body indefinitely. A positive cutaneous reaction with tuberculin, especially if well marked and long continued, would thus indicate the presence of lysins in considerable quantity and would signify an adequate ability on the part of the body to struggle with the tuberculous infection. A negative reaction would signify either that the patient has never had tuberculosis or, if clearly tuberculous, that he is gravely handicapped in his struggle against the disease. As yet this theory is highly speculative and is not even entirely in accord with all the the phenomena it attempts to explain. Nevertheless it is interesting as affording some theoretic basis for a prognostic use of the cutaneous test, the real validity of which must, of course, be established by clinical observation.

The opinions of clinicians are far from unanimous on this point. One group of clinicians among whom may be mentioned Bandelier and Roepke, Ziegler and Heinemann absolutely deny any prognostic value to the test. They hold a positive reaction to signify merely a tuberculous infection in the present or in the past, and believe that a negative reaction in the presence of evident tuberculosis is always due to cachexia. This is certainly an exaggeration, since there can be no question that the reaction is sometimes negative-in cases of tuberculosis that show no evidence of cach-

exia as this word is ordinarily understood. Thus in early stages of miliary tuberculosis, when the patient is still comparatively robust, the cutaneous reaction will usually fail. Another group, among whom Wolff-Eisner takes the lead, and which includes such men as Bumm, Curschmann, Meissen, Zoeppritz and Stadelmann, go to the other extreme and see in the prognostic use of the test its chief value. My own observations do not entitle me to a hard and fast opinion; still less are they sufficiently numerous to be available statistically. Nevertheless in a considerable number of carefully observed cases I have had distinctly the impression that, where the diagnosis of tuberculosis had been established, the majority who gave a positive cutaneous reaction on the whole did better than the minority which gave a negative one. I do not believe that prognostic conclusions drawn from the cutaneous test are by any means infallible, nor would it be any fairer to demand such infallibility from this test than it would be to grant diagnostic value to a sign or symptom only if it be pathognomonic. It is sufficient if a negative cutaneous test in a case of tuberculosis serves to give us pause and to make us even more cautious, than we should otherwise be, in committing ourselves to a favorable prognosis.

It may be of interest to report very briefly a few cases that illustrate this point:

1. M. T., aged 45, had had a cough for three months, with fever, nightsweats and progressive emaciation but no hemoptysis. Physical examination showed merely impaired resonance over the right apex, with increased bronchophony, harsh respiratory murmur and fine moist rales. The sputum was mucopurulent, blood-streaked and contained a few tubercle bacilli. The urine was light, showed a trace of albumen, few casts, no diazo reaction. The temperature varied irregularly from normal to 101.5, with a rather slow pulse and not very rapid breathing. The prognosis did not necessarily appear very bad. Both conjunctival and cutaneous tests were however entirely negative. The case rapidly ran into a general miliary tuberculosis and ended fatally about six weeks later.

2. K.O., a girl 17 years old, had been in good health until September, 1908. She then had what was called a light attack of grippe after which she continued to cough. I was called in October, 1908, for a violent attack of hemoptysis which recurred at intervals for over a month. With the exception of a continuous high temperature the case presented the typical picture of an incipient phthisis, the lesion apparently being confined to the right apex. The sputum contained tubercle bacilli, the urine was practically normal. The cutaneous tuberculin test was entirely negative. The case ran the typical course of a phthisis florida, ending in death on December 15.

In both these cases, there was little to indicate a bad outcome at the time the cutaneous test was done. The negative reaction, however, seemed to justify a cautious prognosis. By way of contrast, the following case may be cited:

3. Y. S., aged 23, with a tuberculous family history, had been in unsatisfactory health ever since an attack of typhoid fever in 1902. During 1908, he had had a number of febrile attacks, which were diagnosed as malaria. I was called to see him in January, 1909. He then presented a picture suggestive of typhoid fever; high continuous fever, rapid dicrotic pulse, headache, stupor, parched and coated tongue. There was a dry cough with signs of bronchitis; otherwise physical examination was negative. The Widal test and a blood culture were negative and there was neither leucopenia nor lymphocytosis. Somewhat later a blood-streaked sputum made its appearance containing tubercle bacilli. The entire clincal picture was suggestive of a miliary tuberculosis. The cutaneous reaction was however strongly positive. The case soon cleared up, the temperature becoming nearly normal, though the cough, expectoration and a little evening fever persisted for weeks. Under a regimen including outdoor life, absolute quiet and systematic tuberculin injections his condition steadily improved until now he is the picture of robust health. He is going west for the winter to complete his cure.

Two cases of tuberculous peritonitis may also be contrasted.

4. J. P., aged 25, was first seen in February, 1908. For some months he had been coughing and losing weight and strength. There had been dyspeptic symptoms and for some six weeks considerable abdominal pain. Physical examination showed moderate involvement of one apex, a high diaphragm, considerable ascites and general abdominal tenderness. He ran a continuous fever with rapid pulse and respiration. A few tubercle bacilli were found in the sputum. Both cutaneous and conjunctival tuberculin tests were negative. He soon passed out of my hands, but I learned of his death during the following summer.

5. C. S., aged 25, had always been well until December, 1908. He then developed a dry cough with pain in the right thorax. In April, signs of tuberculous peritonitis developed and the diagnosis was confirmed by operation in May. When I saw him some weeks later, he was in poor condition and the end did not appear far off. Both cutaneous and conjunctival tuberculin tests were, however, positive. For a time he continued to do poorly. He was made to lie out of doors day and night and was treated by means of tuberculin injections. Towards the end of May he began to improve and during June and July gained ground steadly. He then passed out of my hands, and I do not know the ultimate outcome. Nevertheless, the positive local tuberculin tests were in accord with the surprising power of recuperation shown by the patient.

A few cases like the above must of necessity be illustrative rather than convincing. In the absence of adequate statistics on the subject, they justify one in attaching a limited prognostic value to the cutanous test. The conjunctival method, once much used, is steadily falling into disfavor in spite of the advocacy of Wolff-Eisner, its originator. It is not only not quite free from danger but, in my experience, meets with much more objection on the part of patients than the cutaneous method. Theoretically it is identical with the cutaneous test being merely weaker and more uncertain because the diluted tuberculin is placed upon an uninjured surface and is rapidly washed out of the conjunctival sack, to a degree varying with the individual, by the flow of tears. Personally, I no longer use it.

Nervousness combined with sleeplessness, gelsemium and hyoscyamus may be used with very good results.

"Pediatrics" Under New Control.— The recent announcement of the purchase of "Pediatrics" by Dr. W. E. Fitch, who has been long known to medical readers as the able editor of Gaillard's Southern Medicine, is an interesting item of news and the fact is the beginning of a new era for that very useful journal. We are informed that Dr. Fitch will edit Pediatrics and will devote his energies to its upbuilding to greater things than those which have characterized its creditable past; if Dr. Fitch undertakes it, so it will be. The Fortnightly extends friendly good wishes to the journal and its editor.

THE MEDICAL FORTNIGHTLY

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EDITORIAL

Optometry and the General Practitioner.

The problem of the itinerant optician has been one of the troubles of the profession and the public since he first made his appearance, which goes back into the darkness of history, efforts to abate him as a nuisance have been largely unavailng and it has taken the organized profession up to these closing days of the year 1909 to discover that it may be done by the simplest of methods and without the aid of any particular legislation directly pointed at him. The answer is "make the doctors good refractionists themselves." Now isn't that simple? Every one of us knows that it is no great task to master such refraction work as is needed in everyday practice. We find ourselves wondering why the schools have not been teaching it and a bit less of the circle of Willis and a few other things which we can never see except on a very dead one. The itinerant optician is a variable quantity when it comes to ability, he is largely a product of a three-months' course in a small room on an upper floor of a large office building which calls itself a "college," or of a correspondence school; at least he can give something which magnifies and he may have the happy ability to fit frames (which, by the way, many of our refractionists and expert opticians fail miserably in). The general practitioner could easily do this work and do it better.

We hate to think of burdening the already overworked medical student of today with another subject, but there are other subjects, several of them, which could be nicely trimmed to no disadvantage to anyone and the addition be no burden at all.

Here's the entering wedge of the new movement, its a good one and deserves your hearty support:

"At the late meeting of the Ophthalmic Section, A.M.A. (eleven hundred members), the undersignd were appointed a committee to promote a working knowledge of simple refraction among physicians:

It has secured abundant evidence that such knowledge has been acquired and is now used by many physicians, so proving that all medical men can do likewise, if they so desire.

But that the practice may become uniform, it is necessary that the State Boards of Registration require it for license and medical colleges teach it in course.

Recognizing its importance, the Michigan State Board of Registration, on February 12, 1909, notified medical colleges, that thereafter, it would grant licenses to practice only to such applicants, as demonstrated, on a living subject, with simple spherical lenses and test types, their working knowledge of simple refraction.

Your committee is confident that every State Board of Registration, would make a like requirement, if it grasped the situtation; and then all medical colleges would qualify their students therefor.

Recalling the fact that our system of medical education makes no adequate provision for training the family physician in simple refraction, and that it be impossible for experts to meet the needs of all the people in this respect; it is plain that this class of cases had no source of relief other than the optician. But if the State boards require a working knowledge of simple refraction for license, the needs of all the people will be fully met by qualified physicians, and the optician resume his normal vocation as a spectacle merchant.

Recognizing your great influence in medical affairs, and assuming your vital interest in enlarging the field of family practice, your committee confidently ask your active endeavor to persuade your "State Board of Registration" to require "a working knowledge of simple refraction" from each applicant for license.

Each member of your committee stands ready to assist you to a fuller understanding of the situation, or to co-operate with you in seeking its relief

LEARTUS CONNOR, Detroit, Mich., chairman.

A. R. BAKER, Cleveland, Ohio.

J. THORINGTON, Philadelphia, Pa.

One of the symptoms of disease of the rectum which should not be overlooked is backache.

Growing Old Gracefully.

Nowhere does success in life show in a more marked way than in the manner in which one adapts himself to the changes which come with the advance of age. No more ludicrous a creature is to be found than the painted and bleached woman of advanced years who is trying to conceal it unless it be the dyed and foppish specimen of manhood which belongs to the same class; both fail utterlyin their object, yet both are happily oblivious to the fact. But this effort to appear young does not confine itself to those who attempt to conceal a multiplicity of years by artificial devices, the most old-maidish thing about the maiden along in years is her unwillingness to abandon "young people's society" and to cut out her talk of being one of the "girls," one would think that the honorable position of being a woman was utterly abhorrent to her. Men take maturity more rationally, but there are enough old-maid men to keep our sex from being over proud; they show up at their best when they are sick and are capable of making the most seasoned physician regret that he did not undertake some other career.

A few days since we were called upon to attend a would-be-young, old lady, who, though well past sixty and a grandmother and a possible great grandmother, was by the aid of cosmetics and disguises posing as yet in the forties. In the sick bed, and separated from her numerous disguises, she looked a wreck. During the examination it was necessary to ask some rather intimate questions and her indignation at questions as to the menopause was pitiful to one who knew that her answer was that of a liar.

We have no regret for the day when men and women were "old" at fifty, when life was so strenuous that the body became old before its time, and before rational methods of preservation were known. But preservation is not disguise, never. We have all of us among our friends men and women who seem to have been grey for years and to have always been old and always young; they have peacefully accepted time as it has come to them and have made no struggle against it, they are a comfort to those who know them and a blessing to the community in which they live. To grow old gracefully is not a lost art, even though the beautiful examples are seemingly fewer during these later years. The growing old began early in life, it established itself as an adaptability

to ever-changing conditions, it made for contentment at the time with the existing environment. It may have felt a little shock when it found itself classed with the young men where it had been a boy, and again a greater shock when the young doctor said, "you older fellows leave this to the younger men" but it never is ludicrous unless a struggle to oppose it is undertaken.

The honorable position of age is in jeopardy where so strong a sentiment against it is growing. To preserve it as an institution we must encourage it as an honorable sentiment to feel pride in passing from childhood to boyhood and girlhood, and then to youth, and to maturity, and to the full vigor of the adult human, and to make the passing to the later stages of life's journey no less honorable and useful to one's fellows than have been the earlier stages

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Suicide in St. Louis.

The annual report on mortality in this city has lately been made public, and from it we gather much that is of interest, but are especially interested in those figures which deal with suicide. Self-destruction in this little section of the world during the year from September 1st, 1908, to August 31st, 1909, reached the surprising total of 205, or a fraction slightly less than 3 to each 10,000 of population.

Analysis of the statistics of self-destruction is useful enough in demonstrating a condition, but is not very satisfactory in providing an explanation. Several points, however, are made clear enough.

One of these is that negroes do not commit suicide (but 2 of the 205 were negroes). The other is that among the white population persons of Teutonic birth or origin contribute considerably more than their share of the melancholy figures.

Men are far more likely than women to yield to the impulse of self-slaughter; married persons more often than those who are single, and those between the ages of 20 and 40 years almost twice as frequently as those older and younger.

Of the 205 suicides recorded in that time 154 were men and 31 women; 104 were married and 101 single. The ratio between these figures is about that which obtained for the last five years. Most of the self-slayers—79 or 38 per cent of them—were between 20 and 40 years old. Eleven were over 70. In the four years from 1904 to 1908, 797 persons killed themselves in St. Louis. Of that total 47, mostly girls, were less than 20 years old; three were under 15 and 44 had exceeded the Psalmist's allotment.

Just why 38 per cent of the suicides each year should be persons in the best years of their span—those between 20 and 40—is only less inexplicable than the self-destruction of those under 20, upon whom the cares and burdens of existence could hardly rest very heavily.

Marriage appears to be no more a safeguard against the suicidal impulse than it is a reason for it. For suicide among the married is only a little more common than it is among the single. The quest for the real cause of suicide, seemingly, must go beyond the age, social condition and financial circumstances of those who are its victims.

Phytolacca is useful in all glandular enlargements, both internally and externally.

In protracted fevers, with much heart weakness, cactus will not only strengthen the heart, but will materially reduce the temperature.

Christmas Century.—In its Christmas issue The Century has been even more than usually fortunate in getting its illustrative material from original sources. The Memoirs of Madame Modjeska are illustrated from family photographs, but in addition there are two pictures made by W. T. Benda, the nephew of the great actress, who went home to Poland for her funeral at Krakow and came once more in touch with the intimate family circle. Charles Johnson Post depicts the scenes in Curacao with which his visit there made him familiar. P. V. E. Ivory, a Californian of pioneer stock, shows in his picture "A Madonna of the Prairies" the schooner in which his grandfather and grandmother drove across the plains in 1849. Frank E. Schoonover, who has made the pictures for Miss Cameron's article on the "Sentinels of the Silence" has journeyed through Canada's far northwest and brought home not only uniforms and costumes but an intimate working knowledge of conditions and places, and a warm admiration for the Dominion's far-famed mounted police. Norman Irving Black motored through Norway and sketched as he paused. Remington Schuyler, who contributes "Three Wise Men of the Plains," lived among the Indian tribes and learned their lore from them in their own tongue.

CORRESPONDENCE

MY VIEWS OF THE RACE PROBLEM.

Editor Medical Fortnightly:

Garbled interviews, misleading sensational headlines and inaccurate quotations from my lectures and writings on sociologic topics by the secular press have frequently misrepresented my views of various subjects. None has been so wilfully misrepresented as my attitude toward the race problem. I have repeatedly been made to say that I advocated miscegenation. This is utterly false. Numerous journals and magazines already have quoted my views on certain phases of the race problem, the one of which was alone sufficient to refute this absurd deduction from my work. I have discussed the subject in my "Diseases of Society and Degeneracy" in a manner which should set at rest all question as to my attitude. Briefly, my views are as follows:

The race problem did not begin with the landing of the first slave on American soil, nor with the liberation of the slaves. It began with the outrage upon the South of attempting to place the ignorant freedman on a political equality with the whites. In this attempt tradition, custom and local conditions were set at naught. The fourteenth and fifteenth amendments to the Constitution are tantamount to an agreement on the part of the United States to deliver something which it never has been, and may never be, able to deliver, either in the North or South, least of all in the South. The Southerner, the man on the social and political firing line, was confronted with the alternatives of social and political submergence through acquiescence with the provisions of the constitution, and defending his vested rights by evading the constitutional big stick as best he might. He chose the latter alternative, as any race of white men in a similar position would have done, for, all theories aside, this was and is a white man's country.

In the light of experience, the constitutional amendments in question are a farce and a menace. We can evade the issue, but—after us the deluge—our posterity will pay dearly for the political knavery, impracticality and evasion of issues of their ancestors. A social fire is no less a fire because it is smothered by "bunk" and evasion.

The North has vituperated and berated the South for its attitude toward the negro, but it is obvious that the regulation of one household by a neighbor is rarely a success. The family may not always be right, but knows far better than the neighbors the best method of meeting the exigencies of its daily life. The man on the firing line best knows the most effective method of attack and defense.

Legislation against miscegenation is illogical and ineffective because it bars legitimate relations of white and blacks and does not penalize illegitimate relations. Legislation should go to its logical ultimate; otherwise it puts a premium on illegitimate relations. The job should be done thoroughly if undertaken at all. To what extent may race amalgamation eventually occur in this country? No man can say. When we consider that from 20 to 25 per cent of avowed negroes in America have white blood in their veins, to say nothing of those who have no such white blood that they pass for whites, it does not require much profundity of thought to suggest what may happen. Legislation against animality, against the primitive instinct of sexual selection, has failed. The first step toward amalgamation has been taken. The mingling of bloods has gone on, and will continue, possibly at a geometric rate of increase. The black stream has always contaminated the white stream at its borders. Those borders have become yellow and yellow-white, and are encroaching more and more upon the central stream. If the white stream and the black and yellow stream remain segregated, there will always be a race problem. If they amalgamate, the race problem will disappear, but race degeneracy and perhaps extinction for the amalgamated breed will replace it. Think it over dispassionately and answer me: Can we always stave off the issue? Will not our children and our children's children pay the price of the lunacy of their ancestors? Are we not the traditional ostrich with his head in the sand? In short, do we not stand between Scylla of the race problem and the Charybdis amalgamation? One or the other will eventually prevail and bring disaster. The only alternative would be sterlization of the entire negro race and, he would be bold indeed who would dare to advocate this. Humanity at large would never tolerate such a thing.

The negro is becoming educated—education brings ambition. He is becoming well-to-do—wealth brings power. He is becoming a political factor—this brings more power. Supposing he should demand the fulfillment to the letter of the provisions of the fourteenth and fifteenth amendments. Would he get what he demanded? Hardly. The North could not "deliver the goods" and the South would not. Alas! Poor old

government. But this can never happen in our day—therefore are we comfortable. Again, "after us the deluge." But it will one day happen unless amalgamation of races occurs, in which event—well, some more "after us the deluge." It is not pleasant to contemplate the prospect of America being populated by an unhappy mixture of races showing physical and mental deterioration as its dominant characteristic, with racial extinction looming up as a dark background to the dark picture. Let it be remarked here and now that the North, not the South, will be the first to show the evil results. Social and political segregation in the South are less easily surmountable barriers than any which would have to be climbed in the admixture of bloods in the North. In some ways the North is more intolerant of the negro than is the South, but the intolerance is not so practical so far as segregation and white social self-defense is concerned.

History and sociologic research alike bear me out in my views of the race problem. Only the ignorant or viciously disposed could construe my views as an endorsement of miscegenation.

Frankly, I am not one of those pink-eyed optimists who believe that the race problem, if it endures at all as such, will take care of itself. I am very pessimistic, and can see nothing but breakers ahead—issues which must one day be met squarely, fairly, and courageously. Whether enormous expenditures of money will be flanked by blood or tears, or by both, I know not, but I like comfort and peace of mind and am just selfish enough to be glad that I shall not be here to estimate the exact price posterity will pay for the sins and follies of its fathers.

G. FRANK LYDSTON.

FOURTH LATIN-AMERICAN MEDICAL CONGRESS.—The Brazil Medico gives the details of this successful gathering of medical men from all the Latin-American countries held at Rio de Janeiro in August. Dr. A. Sodre, editor-in-chief of our esteemed exchange, was president of the congress, which attracted 1,500 members, and at which over 100 papers were presented. There was an exhibition in connection with the congress, but the most interesting exhibit was the city of Rio itself, which has eradicated yellow fever mainly by the initiative and efforts of Oswaldo Cruz, at the head of the board of health. The congress adopted a resolution congratulating him on this, "the most brilliant sanitary triumph of the contemporaneoue epoch."

MEDICAL PROGRESS

Comprising the Regular Contributions of the Fortnightly Department Staff.

OTOLOGY.

A. F. KOETTER, M. D.

Herpes of Membrana Tympani.—(T. J. Orbison, Los Angeles, Journal Mental and Nervous Diseases.)—Woman, with rheumatic trouble for some time, has had for three to four years repeated eruptions of herpes zoster in different nerve regions. The present illness began with pain in the throat followed by pain throughout the whole body, vomiting, anorexia. On the third day pain in left ear, tinnitis, feeling of fulness and impaired hearing. Otoscopic examination showed a blister in posterior inferior quadrant, gradually increased in size until it covered entire membrane. After three days discharge of a watery secretion, followed by disappearance of deafness. Herpes eruption on the gums.

Arterial Hemorrhage from the External Canal with Ligation of the Carotid.—J. A. Spalding, Portland, Me., Archives of Otology.)—Boy of five with acute tonsilitis three weeks previous and tonsillar abscess on right side, acute middle ear inflammation on the same side. Discharge of a large quantity of serous fluid in the next four days. On seventeenth day there suddenly appeared an abundant arterial hemorrhage from the ear. Tight packing of external canal caused blood to flow from nose and throat and stopped only when syncopy set in. High degree of anemia. Hemoglobin 40. Swelling over tip of mastoid to neck. Wiping out of external canal with adrenalin and subcutanous injection of calcium chloride. After continued hemorrhage, ligation of carotid. Opening of mastoid process. Right pupil maximum contraction, left dilated. Uneventful recovery.

Labyrinth Disease in Early Stages of Syphilis.—(Stuempke, Berlin, Dermatologische Zeitschrift.)—Luetic labyrinthian diseases are divided into three forms: in the course of hereditary lues in the secondary stage and in the tertiary form. Anatomically, in labyrinth affections of secondary luetic basis, we are dealing with a specific change, infiltration of the parts, whereas in hereditary lues the membranous labyrinth is involved secondarily, through pressure of the bone proliferations coming from the periosteum. Clinically there is also a marked difference in congenital lues the development is a gradual one; whereas in the scondary stage it appears suddenly

and with startling symptoms, the former is always bilateral, the latter most often unilateral. Of importance is an early mercurial treatment. Illustration of two cases of secondary luetic labyrinth disease in which the specific therapy caused a marked improvement in the cochlear as well as in the vestibular function.

The Treatment of the Late Stages of Chronic Catarrhal Deafness.—(M. Yearsley, London, 16th International Congress at Budapest.)—Much as we are able to do in the early stages of chronic middle ear catarrh by proper treatment, little influence is noticed in the late stages. But even here proper therapy can show some results. Of importance is the prophylactic intranasal treatment. The first indication for a successful therapy is an exact diagnosis by careful functional tests. If the tube is the seat of the disease, an inflation with eventual bougieing in stenosis is of great value, whereas electrical method is of little use. Of the intratympanic injections author has used menthol oil, iodine solutions, pilocarpin, etc., menthol giving the best results. Pneumo-massage is indicated in fixation of the ossicles, in this method the rapidity of the vibration is of more importance than the force. The injection of fibrolysin is of value in some cases. Of the operative measures to be considered in the first place, is the mobilization of the malleus, besides this synechotomy and tenotomy of the tensor, eventual excision of the malleus and incus.

Permanent Results of the Conservative Treatment of Chronic Purulent Otitis Media.—(Vogt, Zeitschrift fuer Ohrenheilkunde.)—The resume takes in 148 patients dismissal from treatment dates back two and one-half years. Those cases are pronounced cured when the discharge has ceased. The treatment in meso-tympanal suppuration was as follows: if profuse discharge syringing with normal salt solution, occasionally suction of secretion with Siegle's speculum or suction glass, softening of crusts by application of 10 per cent borglycerin solution in hyperplasia of the tonsils, turbinates, etc., corresponding endonasal treatment, dilation of the tube, syringing per tubam, sometimes extraction of ossicles, instillaton of boralcohol glycerin or some like mixture with addition of sublimate application of caustic by cotton pledget, insufflation of boracic acid. If attic suppuration syringing with tympanic canula normal salt solution, eventually excision of ossicles. General treatment cod liver oil.

GENITO-URINARY.

T. A. HOPKINS, M. D.

The Wassermann Reaction.—E. Castelli, New York (Jour. A. M. A., Sept. 18), believes that the Wassermann reaction as used by its founder is, with all its difficulties and delicacy of manipulation required, better than the so-called modifications which have been attempted to be made. The Noguchi modicfiation is theoretically rational, but clinically it has sometimes aroused doubt, he says, as to its efficacy as a substitute for the original Wassermann test, and while he is confident of the results reported by Noguchi himself, he does not place the same confidence in the work of some of his pupils. He does not trust the human being for experiment because he does not live altogether under natural conditions. The Wassermann reaction, as it is now, has responded perfectly to the demands of the clinic. Noguchi has not proved his method to be better and Castelli advises conservatism as regards change. The really contradictory results have been obtained from the examination and interpretation of the results with the cerebrospinal fluid and he says we have good reason to discard the absolute reliability of the Wassermann test with the spinal fluid as compared to the reaction of the blood serum. He does not mean by this to discard the test with that fluid, but we should estimate a positive reaction as of less value and a negative reaction of more value when we test the cerebrospinal fluid. A special value has been attached to this test in general paralysis which does not correspond to the reality. It has, he says, less value in the early stages of paresis but is useful in the prognosis and therapeutics of that disease. The number in which it is positive, varies with different observers with an average of 50 to 60 per cent, but nearly all admit that it is constant in advanced cases. The genesis of the process producing the Wassermann reaction, Castelli says, is different with the cerebrospinal fluid than with the blood serum. When the reaction is positive with the blood but negative with the cerebrospinal fluid the indications are to an early stage of the disease before nervous disintegration has taken place, and specific treatment is advisable. When the reaction is positive in both it is a positive indication of an advanced stage of paresis or tabes provided the clinical symptoms confirm the diagnosis; the brain is not then in a condition to be benefited by specific treatment. The positive reaction with the cerebrospinal fluid, there-

fore, seems to him to indicate an already somewhat advanced disintegration of the nervous centers, showing the presence in the cerebrospinal fluid of lipoids derived from their albuminoid components. This explains why this reaction occurs in patients where there may be no suspicion of syphilis, and, in his opinion, shows that general paresis is not exactly due to syphilis or its toxins, but the immunizing substances produced in our organism, which becomes a victim to the autointoxication. We are therefore compelled to give the Wassermann reaction a wider interpretation and consider it in many cases as showing a grave disturbance of the metabolism of the nervous system, while syphilis may still be considered as one of the most important causes of such conditions. Castelli gives the results of his experience in association with Dr. Sachs in examining appropriately 250 cases, especially those in which the syphilitic origin of the disease could not be traced. The apparently nonspecific cases were found in (1) myxedema, (2) scleroderma, (3) lupus, (4) leprosy. In all of these he finds a probability of an hereditary taint. In 5 cases of aneurism and 29 of cardiac valvular disease there was a positive reaction in 24 and negative in 5. In 10 of these 34 cases syphilis was acknowledged, in the others unknown or denied. The therapeutic suggestions are given by him at some length. He says the Wassermann reaction has given us the means of detecting infection during the intrainfectious period, and a preventive rather than a repressive method of therapeutics. We have not yet, however, mastered the methods. His view is that we should introduce directly into the blood current the means of destroying the infection which is carried through the system by the blood at its very source, and that hypodermoclysis, venoclysis, seroclysis, etc., will in time entirely supersede every other therapeutic means, and he thinks that experiments to this effect should be undertaken in all of our hospitals.

Personal Experiences in Prostatic Surgery.—In a paper in Virginia Medical Semi-Monthly for May, 1909, Dr. R. C. Bryan recalls some ten years ago having heard one of the most prominent surgeons of his day, one of those peerless pioneers, say that he did not believe the negro was subject to enlargement of the prostate." As 9 of the 26 of his series of prostatectomies discussed were performed on negroes, it would seem that this belief was without foundation. His cases ranged in age from 53 to 79 years. Seventy-five per cent were farmers the remainder mechanics, laborers, etc. Of the series 3 died, or about 11 per cent. Amongst other interesting matter the author calls attention to a complete prostatectmy as a radical cure for chronic, relapsing, gonorrheal prostatitis. In this instance the young man contracted gonorrhea ten years ago. Since then he has had innumerable outbursts characterized by severe discharge, frequent and painful urination and relapsing epididymitis or epididymo-orchitis. The prostate was moderately enlarged, boggy and painful. Massage expressed, on each occasion, pus cells, gonococci and broken-down products. Sitz-tubs and rectal irrigations were religiously carried out at each eruption, until wearied with the frequency of the attacks and understanding that the source of infection was the prostate, though realizing the severity of the operation, he willingly subjected himself to any radical procedure which he thought stood a fair chance of bettering, probably curing, his trouble. On March 1st, by perineal section the prostate was most satisfactorily removed. The patient left the hospital at the end of the fifth week; the wound had entirely healed. Daily irrigations of a mild solution of permanganate of potassium have been carried out and, at present, there is absolutely no discharge, the patient retains his urine throughout the night and from four to five hours during the day, and has already gained much in weight and spirits. The focus of the infection having been removed, the author believes this patient to be much better off than it would have been possible ever to have made him by medication, instrumentation or washings. The author's conclusions are, in part: 1. Prepare the patient for two weeks for the surgical ordeal. 2. Perineal operation is always one of choice, except in ball-valve and horse-collar overgrowths. 3. Leaving the middle lobe carrying the ejaculatory ducts is unnecessary and may be the cause of further trouble. 4. Wash out the bladder and kidneys with water, not with drugs. 5. Let the patient stay in bed as long as he would in other major operations.

Hematemesis.—When every other remedy has failed, Pron advises the following mixture:

Calcium chlor	℥i
Syrup of opium	℥v
Ergotin	gr. xxx
Gallic acid	gr. vijss
Syr. of turp	℥ii
Peppermint water	q. s. ℥v

Give tablespoonful doses every hour until effect.

SOCIETY PROCEEDINGS.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Thirty-Fifth Annual Meeting held at St. Louis, October 12-14, 1909.

The President, Dr. John A. Witherspoon, Nashville, Tenn., in the Chair.

Addresses of welcome were delivered by Dr. Tinsley Brown, president of the Missouri State Medical Society, and by Dr. Clarence M. Nicholson, president of the St. Louis Medical Society. The response on behalf of the association to these addresses was made by Dr. T. Hunt Stucky, Louisville, Ky.

Treatment of Peritoneal Infections in the Light of the Protective Nature of Peritonitis.—Dr. Channing W. Barrett, Chicago. The speading and absorption of infection is a process dangerous to life and inflammation is a reaction beneficial to the patient in the presence of infection. I draw the following conclusions in regard to the treatment of peritoneal infections. 1. Peritoneal infection can be prevented by the greatest care in operative work and by the approved use of such means as are best calculated to prevent peritoneal infection from other sources. An infected appendix is one which, by reason of kinking, the presence of a foreign body, etc., is likely to become infected and should be removed. Pathologic conditions of the intestines, gall-bladder, uterus, tubes and ovaries should receive attention. 2. In the presence of existing peritoneal infection, an effort should be made to discover its origin and further infection prevented, if possible. 3. Easily and safely removable sources of infection, such as a badly infected appendix or in some instances an infected kidney, ovary or uterus, should be removed. But when this is done during an acute process it should be done not because the structure is inflamed, but because the source of infection is being thereby entirely or largely removed. 4. All physical activity of the patient, massage, peristalsis, etc., which will tend to distribute infection should be avoided. 5. The development of bacteria in, and their distribution through, the intestinal tract should be lessened by the removal of gaseous fluid contents of stomach, lavage, rectal flushings and, if necessary, as is sometimes the case, by enterostomy during the operation. 6. Whenever and wherever the area of infection can be reached or whenever the infectious material xists in the general peritoneal cavity that an be drained, drainage should be establishd. The tendency of infection is to break down its limiting wall and to increase its area and the damage done not only depends on the virulence of the infection, but on the area involved. The application of this principle to the treatment of appendiceal infection is: (1) The removal of troublesome appendices before the acute onset of infection; (2) the removal of the infected appendix before any considerable peritoneal infection takes place;)3) drainage of localized appendiceal abscess with removal of the appendix if it is easily found; (4) drainage of the peritoneal infection with the removal of the diseased appendix if easily found, if a localized wall has not formed, the absence of wall or weakness of wall making drainage very urgent; (5) treatment of inflammatory wall is a benign and protective process in conditions interfering with the bowels in a mechanical way when it may have to be disturbed by the existence of the distributing infection; (6) rest, general and local, emptying the intestinal tract, dilution of the toxins and supportive treatment with salt solution should be made use of as in keeping with or without operative treatment.

Treatment of Tuberculous Peritonitis.—Dr. W. A. Bryan of Nashville called attention to the time prior to the development of peritonitis, and to that subsequent to operation. In obscure conditions of the pelvis and right iliac fossa of mild grade, sufficient, however, to annoy the patient and to bring him to consultation, and where no physical signs or symptoms were present sufficiently to clear up the etiology, a diagnosis should not be ventured, and the treatment not begun until tuberculin was used to eliminate the possibility of tuberculosis. If it proved positive, even then it did not mean that the tuberculous process was acting at one of the two sites named, although a physical examination would enable one to determine with satisfaction on this point by the exclusion of others. By this means the process might be dealt with much earlier on the average and the results be much more satisfactory. His results had been most gratifying in the accidentally discovered cases and in those where an early operation was done on suspicion of tuberculosis. Surgery was usually accepted by the laity and too often by physicians as an ultimate resort, which, if it did not terminate in death by operation, would surely give complete relief. This was largely true in general work. But not so in tuberculous peritonitis. We might excise the primary focus, but we dared not attempt eradication of the infection from the whole cavity. When this primary focus was withdrawn the individual was not cured, but only

placed where a cure might occur. All cases operated on for tuberculosis should be treated subsequently by physicians.

Dr. A. J. Ochsner of Chicago said that after observing thirty-two cases of tuberculosis for a considerable time in order to ascertain the ultimate results, his conclusions were that taking every case of tuberculous peritonitis and treating it as we treated tuberculosis generally after surgical operation for the removal of the primary focus, about 50 per cent or more would get well and remain well.

Dr. J. Henry Carstens of Detroit said it was not the tuberculosis itself that killed the patient, whether it was tuberculosis of the lungs or any other part of the body, but it was a mixed infection and whenever we had a tuberculous condition in the abdomen, involving the tube or appendix, the patient was in danger of having added to that some other infection. If the appendix was the cause of the trouble it should be removed. If the trouble was in the tubes and there was mixed infection, they ought to be removed. Patients who were operated on for tuberculosis should be treated after operation, like all other tuberculous patients.

Dr. H. Tuholske of St. Louis stated that in addition to any surgical work it might be necessary to do in these cases of tuberculous peritonitis, general and supportive treatment should not be neglected.

Dr. A. H. Cordier of Kansas City, Mo., said there must be something connected with surgery itself that had a marked curative effect in these cases of tuberculous peritonitis.

Dr. Richard A. Barr of Nashville said the primary tuberculous focus should be within the abdomen and removed surgically if we would expect to get satisfactory results.

Tuberculous Toxemia in Surgery.—Dr. Alexander C. Wiener of Chicago presented the following therapeutic conclusions: (1) Obstruction of the respiratory organs which curtailed the intake of air were to be removed by the nose and throat surgeon. Too much stress could not be laid on the removal of enlarged tonsils and adenoids by the skilled operator. Other anomalies, such as phimosis, should be remedied. (2) Mechanical treatment should be undertaken to correct all deformities of the skeleton, particularly the spine and chest. Children and adults who began to develop round shoulders with the subsequent hollows below and above the cavicles, needed urgent treatment. It was harmful to advise the wearing of apparatus for support during the growing period. Braces should be discarded as therapeutic agents in the treatment of deformities of the spine due to rickets. Instead treatment should consist of (a) complete mobilization of all the intervertebral and vertebrocostal joints. (b) Correction of deformities of the vertebrae and ribs. (c) Active and passive exercsies of the respiratory muscles, including the diaphragm.

Dr. F. M. Pottenger of Monrovia, Cal., said the more we studied the infection in tuberculosis the more we came to the conclusion that infection took place in a great number of people early in life and that most of us went through life with at least quiescent foci of tuberculosis withiu our bodies. These quiescent foci were not always negative and they did produce symptoms which had not been generally recognized. Toxemia in young neurasthenic school girls was undoubtedly due to latent foci of tuberculosis and he had seen a number of such cases get well after treatment for tuberculosis.

(To be continued)

THE UNITED STATES CIVIL SERVICE Commission announces an examination on November 24, 1909, to secure eligibles from which to make a certification to fill a vacancy in the position of medical supervisor in the Indian field service at $250 a month and expenses, and vacancies requiring similar qualifications as they may occur in the service, unless it shall be decided in the interests of the service to fill the vacancy by promotion, reinstatement or transfer.

AT the recent meeting of the Indiana State Medical Association the report of the Committee on Tuberculosis condemned the legislature for failure to make an appropriation for the maintenance of the hospital now being built at Rockville, and which, unless money is raised privately, must remain closed for eighteen months. It was decided to have the committee appeal for private loans amounting to $40,000 to run the hospital until an appropriation is made.

IN Germany there are 99 public sanatoria for adult consumptives with 10,539 beds, besides 36 private sanatoria with 2,175 beds. In 18 sanatoria for children with tuberculosis there are 837 beds, a total of less than 13,000 beds. In the United States there are over 300 sanatoria with over 15,000 beds, showing that this country is in the lead in the anti-tuberculosis war. France has only 12 sanatoria for adult consumptives, with a total capacity of 148 beds. All these institutions are private except the sanatorium at Agincourt.